

WHAT IS CLAIMED IS:

1. A substantially pure or recombinant IL-XX protein.
2. An antigenic protein or peptide fragment of the IL-XX of Claim 1.
3. A peptide of Claim 2, selected from the group consisting of:
 - a) a full length natural protein or peptide from a mammal, including a primate;
 - b) a full length natural protein or peptide comprising at least one polypeptide segment of SEQ ID NO:2;
 - c) a full length protein or peptide which exhibits a post-translational modification pattern distinct from natural AK155; and
 - d) a protein or peptide which exhibits a plurality of immunological activities of IL-10.
4. A fusion protein comprising sequence of a protein or peptide of Claim 2.
5. A composition comprising a protein or peptide of Claim 2, and a pharmaceutically acceptable carrier.
6. An antibody which specifically binds a protein or peptide of Claim 2.
7. An antibody of Claim 6, wherein:
 - a) said IL-XX is a mammalian protein, including a primate;
 - b) said antibody is raised against a purified peptide sequence from SEQ ID NO:2;
 - c) said antibody is a monoclonal antibody; or
 - d) said antibody is labeled.
8. A method of purifying an IL-XX protein or peptide from other materials in a mixture comprising contacting said mixture to an antibody of Claim 6, and separating bound IL-XX from other materials.
9. An isolated or recombinant expression vector capable of encoding a protein or peptide of Claim 1.

10. The vector of Claim 9, wherein said nucleic acid:
- a) encodes a sequence of SEQ ID NO:2;
 - b) comprises a sequence of SEQ ID NO:1; or
 - c) encodes a sequence from an extracellular domain of a natural IL-XX; or
 - d) encodes a sequence from an intracellular domain of a natural AK155.
11. A kit comprising:
- a) a substantially pure IL-XX or fragment of Claim 1;
 - b) an antibody or receptor which specifically binds an IL-XX; or
 - c) a nucleic acid encoding an IL-XX or peptide.
12. A method for detecting in a sample for the presence of an IL-XX nucleic acid, protein, or antibody, comprising testing said sample with a kit of Claim 11.
13. A method of modulating the physiology of a cell comprising contacting said cell with:
- a) a substantially pure IL-XX or fragment of Claim 1;
 - b) an antibody or binding partner which specifically binds an IL-XX; or
 - c) a nucleic acid encoding an IL-XX or peptide.
14. The method of Claim 13, wherein said cell is a T cell and said modulating of physiology is activation of said T cell.
15. A method of Claim 13, wherein said cell is in a tissue and/or in an organism.
16. A method of making IL-XX comprising expressing a vector of Claim 9.
17. A cell, tissue, organ, or organism comprising a vector of Claim 9.
18. A recombinant nucleic acid comprising sequence at least about 70% identity over a stretch of at least about 30 nucleotides to an IL-XX nucleic acid sequence of SEQ ID NO:1.
19. A nucleic acid of Claim 19, further encoding a polypeptide comprising at least about 60% identity over a stretch of at least about 20 amino acids to an IL-XX sequence of SEQ ID NO:2.

20. A method of treating a patient having an abnormal immune response by administering to said patient an effective dose of:

- a) an antibody or binding partner which binds specifically to an IL-XX;
- b) a substantially pure IL-XX protein or peptide thereof; or
- c) a nucleic acid encoding an IL-XX peptide.